Department of Mathematics

University of Houston

Analysis Seminar

Thursday, November 17, 2016

11:00-12:00 – Room 646 PGH

Speaker: Nishant Suri (University of Houston)

Title: Naimark's problem for AF graph C^*-algebras

Abstract: Naimark's problem asks whether a C^*-algebra that has only one irreducible $*$-representation up to unitary equivalence is isomorphic to the C^*-algebra of compact operators on some (not necessarily separable) Hilbert space. This problem has been solved in special cases, including that of separable C^*-algebras and of Type I C^*-algebras. However, in 2004 Akemann and Weaver used the diamond principle to construct a C^*-algebra with $\aleph_1$ generators that is a counterexample to Naimark's problem. More precisely, they showed that the statement "There exists a counterexample to Naimark's problem that is generated by $\aleph_1$ elements." is independent of the axioms of ZFC. Whether Naimark's problem itself is independent of ZFC remains unknown. In this talk we examine Naimark's problem in the setting of graph C^*-algebras and show that it has an affirmative answer for (not necessarily separable) AF graph C^*-algebras. This is joint work with Mark Tomforde.